Work Order II September-27-13 1:4			*1(777)5*						Page 1	_
	33-045		Accept	*1	1900	040	100)* s	etup Star	* *N	S1*	-
Revision ID: Item Name: Bearing	ng Assembly								Stop	*N	S2*	
Start Date: 9/27/ Required Date: 10/01		*60* *60*			Cust Item I Customer:	D:						
Reference:	(h						-	R	Run Star	' ^t *NI	R1*	
Approvals: Proc QC:	cess Plan:	Date:	Tooling: SPC (Y/N):			ate:			Stop		R2*	
Sequence ID/ Work Center ID	Operation Description		Set Up/ Run Hou	rs	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	_
Draw Nbr	Revision Nbr											
D3183	Rev C1											
*100 *100* Hardinge Hardinge CNC Lathe Small	Hardinge CNC LATHE Memo Turn D318	SMALL 3-9 Cap as per Folio FA38	0.00 0.00 88Deburr	AS 40 3-8	13/10	/oi		63	Ø			
*110 *110* QC Quality Control	QC2- Inspect parts off n Memo	nachine FAI/FAIB	0.00	DAS \ 400	13/10	D/01		63	_0			
120 *1 2∩*	QC8- Inspect parts - sec	ond check	0.00	SS 13-	10~1			63	_Ø			
QC	Memo		0.00	~~!2"	10 01							

Memo

Quality Control

		DQA:	Date:	
JCD: Voc / No	MODE ODDED NON-CONFORMANCE / LIDDATE			

NCR: Yes / No WORK ORDER NON-CONFORMANCE / UPDATE QA Closed: Date: DISPOSITION AGAINST DEPARTMENT/PROCESS Work Order: Engineering Crosstube Water Jet Rework Skid-tube Quality Small Fab Prod. Eng. Coor. Machining Part No. Scrap Other Finishing Rec/Store/Packaging Use-as-is Thermoforming NCR No. Work Order Update Large Fab Composite Supplier Description of work order update Sign & Action Root Initial Chief Eng or Non-conformance Date Verification QC Inspector Date Step Qty Description Cause Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved **FAULT CATEGORY Landing Gear** General Bend Ovalized Pressure/Forced Bending Grain BOM/Route Centre Not Concentric to O/S Hardware Over/Under tolerance Temperature/Cure Broken/Damaged Part Incorrect Weld Cracks Inspection Incomplete Crushed/Crimped. Burrs Part Lost/Missing Wrong Stock Pulled Instructions Incomplete/Unclear Cuffs Contamination Maintenance Part Moved

Mislabeled

Out of Calibration

Outside Dimensions

Out of Sequence

Misread

Offset

Positioned Wrong

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Orde					*107	705*							Page 2
Item ID: Revision ID:	D3183-045	and the second s		Accept	,	*N900	104 0	1100)*	Setup	Start	*N:	S1*
Item Name:	Bearing Asser	mbly									Stop	*N:	S2*
Start Date: Required Date: Reference:	9/27/13 10/01/13	Start Qty: 60.00 Req'd Qty: 60.00	*60 *60			Cust Item Customer							
Approvals:	Process Pla	an:	Date:	Tooli	ng:		Date:			Run	Start	*N	R1*
-	QC:		Date:		(Y/N):		Date:	AA N.			Stop	*N	R2*
Sequence ID/ Work Center II	D	Operation Description			t Up/ in Hours	Tool ID	Tool #	Plan Code	Accept Qty	Re Qt		Reject Number	Insp. Stamp
*130 *130* Small Fab		Small Fab		0.00	-				63	<u></u>			Z)iš
Small Fab		Memo Press D3183	5-5 Bearing into D31									1	
140 *4 4 O *		QC5- Inspect part comple	eteness to step on W	//O 0.00	DAS 27 9-89			,	62)			
140 QC Quality Control		Memo		0.00	0 13 10	- 8							
150 *150*		Identify as per dwg & Sto	ock Location: <u></u> る)	0.00 363)					63	13/	11/2	DAS 32 9-89
Packaging		Memo		0.00	0							40_	

Memo

150
Packaging

Packaging

NCR:	Yes	/	No

DQA:

Date:

NCR:	Yes	/ No					WORK ORDER NON-C	Or.	NFORM	MANCE / U	PDATI		04 (1	Doto	
	_					-							QA Closed:	Date	;
Work Ord	er:						DISPOSITION				Α	GAINST DEI	PARTMENT/	PROCESS	
Part I							Rework			Skid-tube Machining	ł	osstube nall Fab	Droc	Water Jet	Engineering Quality
raiti	NO.						Scrap Use-as-is			noforming	ł	inishing		e/Packaging	Other
NCR I	۷o.						Work Order Update			Large Fab	4	mposite	Nec/Stor	Supplier	
Root					Des	crip	otion of work order update		nitial	Δ	Action		Sign &		
Cause		Date	Step	Qty			or Non-conformance		ief Eng	Des	scriptio	n	Date	Verification	QC Inspector
oc/Data		,					····								
quip/Tooling															
perator															
1aterial															
etup															
ther															
rocess															
upplier										-					
raining															
napproved															
							F/	AUL	T CATE	GORY					
Landi	ng (Gear					General		•				•	_	_
		Bending					Bend		Grain				Ovalized	L	Pressure/Forced
		Centre No	t Concer	ntric to (D/S		BOM/Route		Hardwa	re			Over/Under	tolerance	Temperature/Cure
		Cracks			Į		Broken/Damaged		Inspecti	on Incomplete			Part Incorred	:t	Weld
		Crushed/C	Crimped.				Burrs		Instruct	ions Incomplete	e/Unclea	ar	Part Lost/Mis	ssing	Wrong Stock Pulled
J.		Cuffs			Į		Contamination		Mainte	nance			Part Moved		
45		Heat Treat	t				Countersink		Mislabe	led			Positioned W	√rong _	_
		Inspection	Strip in	Tube			Cut Too Short		Misread	I			Power Loss/S	Surge	Other
		Ripples in	Bend				Drill Holes		Offset						
		Torque W	aves in E	xtrusior	۱ [Drawing		Out of 0	Calibration					
		Turning Se	equence				Finish		Out of S	equence					
		Wave/Twi	ist in Tub	e			Folio		Outside	Dimensions					

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Work Ordenserver 27-1				*107	7705*					. ,		Page 3
Item ID: Revision ID: Item Name:	D3183-045 Bearing Asse	mbly		Accept	*N900	040	100) *	Setup	Start Stop	171	S1* S2*
Start Date: Required Date: Reference:	9/27/13 10/01/13	Start Qty: 60.00 Req'd Qty: 60.00	*60* *60*		Cust Item I Customer:	D:						
Approvals:	Process Pl	an:	Date:	Tooling: _ SPC (Y/N):		nte:		J	Run	Start Stop		R1* R2*
Sequence ID/ Work Center II	D	Operation Description OC21- Final Inspection -	Work Order Release	Set Up/ Run Hours	Tool ID	Tool#	Plan Code	Accept Qty	Rej Qty		Reject Number	Insp. Stamp

0.00

Memo

160

Quality Control

MF 10-08

									DQA:	Date:	
NCR: Ye	es / No			WORK ORDER	NON-COI	NFORN	AANCE / UF		QA Closed:	Date:	
Work Order	:			DISPOSITIO	N			AGAINST DE	PARTMENT	/PROCESS	
Part No	-			s	work crap as-is date	Therm	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite		Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root	-			Description of work order u	pdate	Initial	A	ction	Sign &		
Cause	Date	Step	Qty	or Non-conformance	- Cł	nief Eng	Des	cription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved											
•					FAUL	LT CATE	GORY				

Grain

Hardware

Maintenance

Out of Calibration

Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

Inspection Incomplete

Instructions Incomplete/Unclear

Ovalized

Part Incorrect

Part Moved

Part Lost/Missing

Positioned Wrong

Power Loss/Surge

Over/Under tolerance

Pressure/Forced

Weld

Other

Temperature/Cure

Wrong Stock Pulled

General

Bend

Burrs

BOM/Route

Contamination

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

Broken/Damaged

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Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Landing Gear

Bending

Cracks

Cuffs

Heat Treat

Crushed/Crimped.

Inspection Strip in Tube

Torque Waves in Extrusion

Centre Not Concentric to O/S

September-27-13 1:41:12 PM

Work Order ID:

107705

Parent Item:

D3183-045

Parent Item Name:

Bearing Assembly

Start Date: 9/27/13

Required Date: 10/01/13

Start Qty: 60.00

Required Qty: 60.00

Comments:

IPP A04.02.18New issueKJ/DS

Comments.	11 7104.02.1011	ew issueits/Do											
Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3183-5		Manufactured	No	- Lander Control of the Control of t		110	Each	40.0000	1	60		1/1	
Bearing							•				1) 15/	<i>110/0</i> 8	· · · · · · · · · · · · · · · · · · ·
				Location		Loc Oty	<u>Lo</u>	c Code				•	
		,		ST235		38					2:10	יב כי	7/3
				1062	.75	38			_ک_	#	DIO	1770	16/04
				ST235B		2							
			٠.	9865	3	2					The		
MDELRINR1.000 Delrin Round Bar 1"		Purchased	- No		3	130	f	23.0000	0.0333	2.10315		1 13/	10/01
		· · · · · · · · · · · · · · · · · · ·	. 1	Location	,	Loc Oty	Lo	c Code					
•		State State	٠, ١	MAT	£	- 23							
	۵		•	m120	6794	23				2			

				DQA:	Date:	
NCB.	Voc /	No	WORK ORDER NON-CONFORMANCE / LIPDATE	<u> </u>		

				<u> </u>			. <u></u> .			QA Closed:	Date	•
Work Orde	r:				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part No					Rework Scrap		Skid-tuk Machinir	ng	Crosstube Small Fab		Water Jet d. Eng. Coor.	Engineering Quality
NCR N	0				Use-as-is Work Order Update	The	ermoformir Large Fa	~⊢	Finishing Composite	Rec/Sto	re/Packaging Supplier	Other
Root				Descri	ption of work order update	Initia		A	ction	Sign &		
Cause	Date	Step	Qty		or Non-conformance	Chief E	ng	Des	cription	Date	Verification	QC Inspector
Doc/Data												
Equip/Tooling												
Operator												
Material	_											
Setup											ļ	
Other		•							,			
Process						1						
Supplier												
Training												
Unapproved											ļ	
						AULT CA	TEGORY					
Landin				_	General					,		-
L	Bending				Bend	Grai				Ovalized	_	Pressure/Forced
L	Centre No	ot Concer	ntric to (o/s	BOM/Route	Hard	ware			Over/Under	tolerance	Temperature/Cure
<u> </u>	Cracks	•	. :		Broken/Damaged	—	ection Incom	-		Part Incorre	<u> </u>	Weld
L	Crushed/	Crimped.			Burrs		uctions Inco	mplete	/Unclear	Part Lost/M		Wrong Stock Pulled
ļ	Cuffs				Contamination	Mair	ntenance			Part Moved		
<u> </u>	Heat Trea				Countersink	Misla	abeled			Positioned V		
	Inspection	n Strip in	Tube		Cut Too Short	Misr	ead			Power Loss/	/Surge	Other
_	Ripples in	Bend		_	Drill Holes	Offse	et '			***************************************		
	Torque W	aves in E	xtrusion	ո	Drawing	Out	of Calibratio	n i				
1	Turning S	equence			Finish	1 lout	of Saguanca					

Outside Dimensions

Wave/Twist in Tube

Folio

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DART AEROSPACE LTD	Work Order: (M)	
	0 1	
Description: Cap	Part Number: D3183-9	
Inspection Dwg: D3183 Rev: C1	Page 1 of	1

FIRST ARTICLE INSPECTION CHECKLIST

X	First Article		Prototype
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Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments		
					-			
Ø0.830	+/-0.005	<u>. 831</u>			VErw	P-10-12		
Ø0.720	+/-0.002	. 720			PIN G			
Ø0.747	+/-0.001	. 747	W		VERN	140-12		
R0.010	+/-0.010	. 010			Rad G			
R0.031	+/-0.010	- 031	/		Rad G			
0.199	+/-0.001	. 199			YOU	P-10-12		
0.276	+/-0.010	276			11	. 1		
0.039	+/-0.010	-040	1		. 1	1,		
		·						
		,						
			<u> </u>					
	65AS							

	-40				
Measured by:	9-89	Audited by:	St	Prototype Approval:	N/A
Date:	3/10/01	Date:	13-10-01	Date:	N/A

Rev	Date	Change	Revised by	Approved
Α	04.04.20	New Issue (P/O D3183-045)	KJ/RF	1
В	06.03.09		KJ/JLM X	ad
			7.71	7///

		DQA:	Date:	
MCD. Van / Na	MADE ODDED NON CONFORMANCE / HIDDATE			

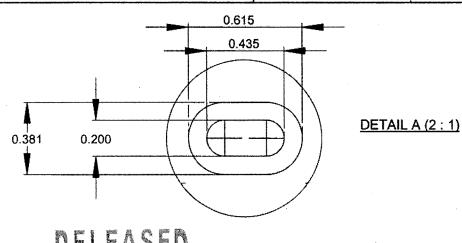
Yes / No NCR:

									QA Closed:	Date:		
Work Orde	k Order: DISPOSITIO						AGAINST DEPARTMENT/PROCESS					
Part No					Rework Scrap Use-as-is Work Order Update	⊣ 1	Skid-tube Crosstube Machining Small Fab Thermoforming Finishing Large Fab Composite			Prod. Eng. Coor. Quality Rec/Store/Packaging Other		
Root				Descr	iption of work order update	Initial	Ac	tion	Sign &			
Cause	Date	Step	Qty	Ē	or Non-conformance	Chief Eng	Desc	ription	Date	Verification	QC Inspector	
Doc/Data												
Equip/Tooling												
Operator												
Material		1		1								
Setup	· .			į								
Other												
Process												
Supplier					,							
Training												
Unapproved												
						AULT CATE	GORY					
Landin	g Gear				General						_	
	Bending				Bend	Grain	Grain				Pressure/Forced	
	Centre No	ot Conce	ntric to	o/s	BOM/Route	Hardwa	are		Over/Under	tolerance	Temperature/Cure	
	Cracks			L	Broken/Damaged	Inspect	ion Incomplete	<u> </u>	Part Incorre	ct	Weld	
. [Crushed/Crimped. Burrs		Burrs	Instruct	Instructions Incomplete/Unclear		Part Lost/Mi	issing	Wrong Stock Pulled			
	Cuffs Contamination		Contamination	Mainte	Maintenance		Part Moved					
Ĺ	Heat Treat Countersink			Mislabe	eled		Positioned Wrong					
	Inspectio	n Strip in	Tube		Cut Too Short	Misread	d	<u></u>	Power Loss/	'Surge	Other	
	Ripples in	Bend			Drill Holes	Offset			_			
	Torque W	/aves in E	xtrusio	n _	Drawing	Out of	Calibration					
	Turning S	equence			Finish	Out of !	Sequence					
Wave/Twist in Tube Folio		Folio	Outside	e Dimensions								



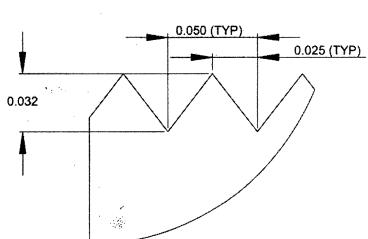


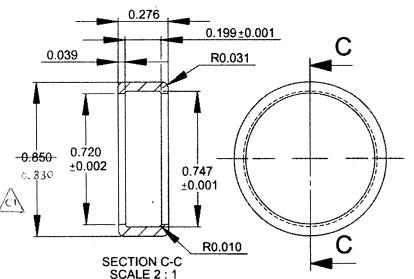
	DESIGN	DRAWN BY	DART AEROSPACE HAWKESBURY, ONTARIO, CA	
- Common	CHECKED	APPROVED	DRAWING NO. D3183	REV. C SHEET 4 OF 4
	DATE		TITLE	SCALE
	04.	02.17	BRACKET ASSEMBLY	1;1



DEO ATTACHED

DETAIL B (20:1)





D3183-9 CAP

- 1) MATERIAL: DELRIN ROD, Ø1.00 (REF DART SPEC. M-DELRIN-R1.00) 2) TOLERANCES ARE PER DART QSI 018
- UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

D3183-045 BEARING ASSEMBLY

1) ASSEMBLE D3183-5 BEARING AND D3183-9 CAP

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NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

						_			QA Closed:	Date:	
Work Order:							AGAINST DE	PARTMENT	/PROCESS		
Part No					Rework Scrap Use-as-is Work Order Update	⊣ ≀	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	Pro Rec/Sto	Engineering Quality Other	
Root				Descri	ption of work order update	Initial	Ac	tion	Sign &	·	
Cause	Date	Step	Qty		or Non-conformance	Chief Eng	Desc	ription	Date	Verification	QC Inspector
Ooc/Data Equip/Tooling Operator Material Setup Other Process Supplier Fraining Unapproved											
ларргочеи		I	1			FAULT CATE	GORY			Ļ	
Landin	g Gear				General						
	Bending Ben Centre Not Concentric to O/S BOf Cracks Bro Crushed/Crimped Burn Cuffs Con			Bend BOM/Route Broken/Damaged Burrs Contamination	Inspect Instruct Mainte	Grain Hardware Inspection Incomplete Instructions Incomplete/Unclear Maintenance		Ovalized Over/Under Part Incorre Part Lost/M Part Moved	ct	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled	
-	Heat Treat - Countersink Inspection Strip in Tube Cut Too Short		Mislabe	Mislabeled Misread		Positioned Wrong Power Loss/Surge Oth		Other			
r	Ripples in	•			Drill Holes	Offset			^**,	J	
r	Torque W		xtrusion	,	Drawing	⊢	Calibration				
<u> </u>	Turning S				Finish	Out of	Sequence				
	Wave/Twist in Tube Folio				Outside	Outside Dimensions					

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